

CLAIMS

1. A coupling system to releasably affix a cylindrical target to a spindle, said coupling system comprising :
- 5 a) a spindle terminating in a flange portion ;
- b) a cylindrical target having at its end a grooved outside circumferential surface ;
- c) an interface ring having a circumferential inner surface adapted to engage with said grooved outside circumferential surface of said cylindrical target ;
- 10 d) a clamping ring adapted to engage at its one side with said flange portion and to engage radially at its other side with said interface ring to hold the cylindrical target to the spindle ;
- e) one or more sealing rings between said spindle and said cylindrical target.
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2. A coupling system to releasably affix a cylindrical target to a spindle, said coupling system comprising :
- a) a spindle terminating in a flange portion ;
- 20 b) a cylindrical target having at its end a grooved inside circumferential surface ;
- c) an interface ring having a circumferential outer surface adapted to engage with said grooved inside circumferential surface of said cylindrical target ;
- 25 d) a clamping ring adapted to engage at its one side with said flange portion and to engage radially at its other side with said interface ring to hold the cylindrical target to the spindle ;
- e) one or more sealing rings between said spindle and said cylindrical target.
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3. A coupling system according to claim 1 wherein said cylindrical target has an outer end diameter and wherein said interface ring has an inner diameter which is greater or equal to the outer end diameter of the cylindrical target.
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- 5 4. A coupling system according to claim 2 wherein said cylindrical target has an inner end diameter and wherein said interface ring has an outer diameter which is smaller or equal to the inner end diameter of the cylindrical target.
- 5 5. A coupling system according to any one of the preceding claims wherein said grooved outside circumferential surface or said grooved inside circumferential surface is a helical groove.
- 10 6. A coupling system according to claim 5 wherein said helical groove has at least one revolution.
- 15 7. A coupling system according to any one of the preceding claims wherein said interface ring further has a flange extremity and wherein said clamping ring is composed of two or more clamping segments, each segment having an inwardly oriented clamp recess, said clamp recess enclosing said flange portion of said spindle and said flange extremity of said interface ring.
- 20 8. A coupling system according to any one of claims 1 to 6 wherein said interface ring has some radially protruding parts and wherein said clamping ring engages with said radially protruding parts.
- 25 9. A coupling system according to claim 8 wherein said radially protruding parts take the form of a helix.
10. A coupling system according to any one of the preceding claims wherein said one or more sealings rings are an O-ring.
- 30 11. A coupling system according to claim 10 wherein said O-ring is at least partially located in said flange portion of said spindle.
12. A coupling system according to any one of claims 5 or 6, said coupling system further comprising a resilient member, said

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resilient member fitting in said helical groove.

- 5 13. A coupling system according to claim 12 wherein said resilient member is a spring.
14. A coupling system according to any one of the preceding claims wherein said target is provided with target material to be sputtered.
- 10 15. A coupling system according to any one of the preceding claims, wherein said cylindrical target ends with a recess, said interface ring having a protruding part meeting said recess to facilitate positioning of said interface ring vis-à-vis said target.

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